REMARKS

Receipt of the Office Action mailed August 29, 2008 is hereby acknowledged. With the enclosed Petition for a Three-Month Extension of Time, this Amendment is timely if filed on or before March 2, 2009 (February 28, 2009 is a Saturday).

Amendments

As suggested by the Examiner, applicant has provided a substitute specification to correct the typographical errors in the specification.

Applicant has amended claims 1, 3, 5, 7-12, and 16. Claims 2, 4, and 6 have been cancelled without prejudice. The amendments to claim 1 are supported in the specification at page 2, second and third full paragraphs, page 3, first and fourth full paragraphs. Claim 5 has been amended to delete the phrase "a light oil such as."

Claim 8 has been amended based on the disclosures of Example 1 (pages 3-4 of the specification). In particular, 660 parts by weight of the Q_{10} solubilizate is added to 370 parts by weight of the α-lipoic acid solubilizate (for a total of 1030 parts by weight). Thus, the Q_{10} solubilizate is 64.0778% by weight of the final concentrate, and the α-lipoic acid is 35.9223% by weight. Thus, the total amount of polysorbate in this mixture is 82.95% by weight: the Q_{10} solubilizate contains 79.0% by weight polysorbate – *see* paragraph bridging pp. 3-4 - , and the α-lipoic acid contains 90.00% by weight of polysorbate – see page 4, second full paragraph. Thus, the 660 parts of the Q_{10} solubilizate contains 521.4 parts polysorbate and the 370 parts of α-lipoic acid contains 333 parts polysorbate. Combining these two solubilizates in a ratio of 660:370

yields a total of 854.4 parts of polysorbate in a total concentrate of 1030 parts, which equals 82.95% by weight. Similar calculations yield final percentages for Q_{10} (3.2%), α-lipoic acid (3.6%), and triglycerides (saffron oil) (10.25%).

Claims 16-17 have been amended to more particularly point out that what is claimed is a particular type of foodstuff/beverage in combination with the concentrate of claim 1.

Finally, the term "concentrate" in line 1 of claims 3, 5, and 7-12 has been amended to --the concentrate--, and "ubichinon" has been amended to --ubiquinone Q_{10}--, as suggested by the Examiner.

No new matter has been added.

Claim Objections

Applicant has made the amendments suggested by the Examiner at page 3 of the Office Action, obviating the objections.

Rejections under 35 U.S.C. § 112

The Examiner rejected claim 8 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement, because the previously listed amounts added up to more than 100%. Without conceding the propriety of the rejection, applicant notes that the cited percentages in amended claim 8 now total 100%, obviating this rejection.

Claims 1-3 and 5-17 were rejected under 35 U.S.C.§ 112, first paragraph as allegedly failing to meet the written description requirement. In particular, the Examiner has asserted that the use of the phrase "α-lipoic acid derivatives" in the claims renders them unpatentable under the written description requirement of § 112. Applicant traverse this rejection, as they plainly were in possession of the invention as originally recited in the claims at the time the invention was made. Nevertheless, in an effort to advance prosecution, the claims have been amended to recite two specific α-lipoic acid derivatives (dihydrolipoic acid and dihydrolipoamide), obviating the rejection.

Claims 1-12 and 16-17 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. First, the Examiner asserted that the phrase "one or more emulgators with HLB values between 9 and 19 permitted according to food or drug law" was indefinite. This phrase has been deleted, obviating this rejection. Claim 8 was rejected as allegedly indefinite because the cited percentages totaled more than 100%. This is no longer true with respect to claim 8 as amended, and the rejection should be reconsidered and withdrawn.

Claims 16 and 17 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite because they purportedly were broader in scope than the claim from which they depended. The claims have been rewritten to eliminate this issue, obviating the rejection.

Applicant respectfully submits that the claims are in full compliance with the requirements of § 112, and requests withdrawal of each of the outstanding rejections.

Prior Art Rejections

Before discussing the prior art rejections in detail, it would be helpful to briefly review the presently claimed invention. Claim 1 recites a water-free concentrate, consisting of ubiquinone Q_{10}, a medium chained triglyceride or triglyceride mixture, α-lipoic acid and/or dihydrolipoic acid and/or dihydrolipoamide, and one or more non-ionic polysorbates as emulsifiers. The concentrate comprises a first solubilizate which is obtained from Q_{10}, polysorbate, and triglyceride, and a second solubilizate obtained from α-lipoic acid and/or dihydrolipoic acid and/or dihydrolipoamide and polysorbate. In the claimed concentrate, the ratio of polysorbate to the remaining ingredients is from about 4:1 to 5.5:1 by weight.

Applicant submits that none of the cited art discloses or suggests such a concentrate.

Rejections over Chopra

The Examiner has rejected claims 1-5 and 16-17 under 35 U.S.C. § 102(b) as allegedly being anticipated by Chopra, U.S. Patent No. 6,300,377 ("Chopra"). Applicants traverse this rejection. Chopra describes a composition comprising at least coenzyme Q, a polysorbate surfactant, a triglyceride, a mono-, di-, or tri-substituted glyceryl ester; in addition, further active components can be added (Chopra, col. 2, lines 1-12).

Chopra notes the relative insolubility of Q_{10} made it unexpected that its compositions "could be readily solubilized to produce liquid compositions characterized by exceptionally high dissolution and enhanced bioavailability which [could] be formulated into a

wide variety of topically and orally administered compositions with the necessity of adding a polyhydric alcohol or other solvent." (col. 8, lines 10-17).

Thus, a person of ordinary skill in the art would learn from Chopra that each of the recited ingredients (including the substituted glyceryl esters), and the cited proportions thereof, is critical to achieving the results claimed in Chopra.

The presently claimed concentrate consists of ubiquinone Q_{10}, polysorbates, and a medium chained triglyceride or triglyceride mixture, α-lipoic acid and/or dihydrolipoic acid and/or dihydrolipoamide. No substituted glyceryl esters are included. Thus, the claimed invention cannot be anticipated by Chopra, and the § 102(b) rejection should be reconsidered and withdrawn.

The Examiner also rejected claims 1 and 6-12 under 35 U.S.C. § 103(a) as allegedly unpatentable over Chopra. The Examiner contends that the specific ratios of components set forth in these claims (some of which have been incorporated into claim 1) would have been obvious because "generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical." (Office Action, p. 12). Applicant respectfully traverses. As noted above, Chopra states that its composition, which includes at least one required component- substituted glyceryl esters - not included in the presently claimed composition. Therefore, a person of ordinary skill in the art would not have been motivated to remove that component.

Moreover, contrary to the Examiner's assertion, the claimed weight range does not fall within the scope of the weight ranges recited by Chopra. Specifically, the present claims recite that the weight ratio between polysorbate and the rest of the components of the concentrate is at least 4:1 (up to 5.5:1). Thus, polysorbates make up at least 80% by weight of the presently claimed concentrate. By contrast, in Chopra's compositions, the polysorbates (described in Chopra as "surfactants") make up no more than 50% by weight of the composition (Chopra, col. 3, lines 6-9). Thus, the presently claimed weight ranges fall outside the scope of Chopra's weight ranges. Nothing in Chopra suggests increasing the proportion of polysorbates in its compositions to at least 80%; in fact, the preferred amount of polysorbate is no more than 35% (i.e. a polysorbate to other ingredient ratio of about 1:2). Thus, Chopra actually teaches away from the claimed ratio of components. For this additional reason, the §103(a) rejection over Chopra should be reconsidered and withdrawn.

Rejection over Wilding

The Examiner has rejected claims 1-4 and 16-17 under 35 U.S.C § 102(e) as allegedly anticipated by Wilding, et al., U.S. Patent Publication No. 2005/0260752 ("Wilding"). Applicant respectfully traverses. Wilding describes a medium for the *in vitro* culture of mammalian cells, the medium including Q_{10}. There are a number of important differences between Wilding's composition and the presently claimed invention. First, as was the case with Chopra, the relative amount of polysorbate in Wilding's composition is much less than in the presently claimed invention. The highest amount of polysorbate in any of Wilding's

compositions is 50% by weight (see, e.g. claim 1). (Please note that the highest amount of polysorbate listed in the Wilding specification is 0.01%, at p. 2, ¶ [0017]). By contrast, in the presently claimed invention, the polysorbates make up at least 80% by weight of the entire claimed composition. Thus, Wilding cannot anticipate the claimed invention. Moreover, Wilding also fails to disclose separate solubilizates of α-lipoic acid and Q_{10}. For this additional reason, Wilding cannot anticipate the claimed invention.

In view of the foregoing, applicant respectfully requests reconsideration and withdrawal of the rejection under § 102(e) over Wilding.

Rejection Under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-12 and 16-17 as allegedly being unpatentable over Behnam, U.S. Patent Publication No. 2003/0165438 ("Behnam '438") in view of Carthon, U.S. Patent No. 6,277,842 ("Carthon") and Behnam, U.S. Patent Publication No. 2004/0081670 ("Behnam '670"). According to the Examiner, Behnam '438 discloses everything in the presently claimed invention, except the use of α-lipoic acid and some of the specific relative amounts of components, and that the secondary references fill in the necessary gaps. The Examiner argues that lipoic acid's alleged weight loss-inducing properties provide the necessary motivation to combine it with the composition of Behnam '438. Applicants respectfully traverse this rejection.

Behnam '438 discloses a concentrate of ubiquinone Q_{10}, but provides no teachings or motivation to provide a concentrate with more than one bioactive component (i.e. α-lipoic acid, etc.).

Similarly, Behnam '670 discloses concentrates comprising either Q_{10} or α-lipoic acid, and provides details on how to produce such concentrates. However, in contrast to the presently claimed invention, Behnam '670 teaches a person of skill in the art that each bioactive component (such as Q_{10} or α-lipoic acid) has its own specific needs and requirements in order to be put into a concentrate, and therefore requires its own preparation. There is simply nothing in Behnam '670, other than impermissible hindsight, which would teach or suggest producing a concentrate containing both α-lipoic acid and Q_{10}.

Finally, Carthon describes a dietary supplement comprising at least nine bioactive components (L-carnitine, chromium, creatine, lipoic acid, niacin, pyruvate, riboflavin, thiamine, and Q_{10}). At columns 2 and 3, Carthon describes what he believes to the specific properties of each of the components. At column 4, lines 7-10, Carthon explains that the disclosed supplement is believed to function by several complimentary mechanisms relating to the citric acid cycle and insulin metabolism. Because Carthon teaches that each of the components has complementary actions, one of skill in the art would have had no reason to remove particular components from the overall composition. Moreover, Carthon provides no teachings on how to prepare solubilizates.

Thus, contrary to the Examiner's assertion, nothing other than impermissible hindsight would have suggested to a person of skill in the art to combine the cited references in a

way necessary to arrive at the presently claimed invention. Accordingly, applicant respectfully requests reconsideration and withdrawal of the § 103(a) rejection.

Conclusion

In view of the foregoing amendments and remarks, it is believed that the claims are now in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

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This is a nationalization of PCT/EP2005/008940 filed 18 August 2005 and published in German.

The invention relates to an α-lipoic acid concentrate according to DE 101 08 614 A1.

Since the studies by K. Rett et al. (Diabetes und Stoffwechsel [metabolism], 1996, 5/3, Suppl. (59-63)), it is known that in overweight patients, administration of α-lipoic acid alleviates the symptoms. Further, a study conducted on rats by Min-Seon Kim et al. (NATURE MEDICINE Vol. 10, No 7, July 2004, pages 727-734) shows that a certain appetite suppressing effect can be attributed to α-lipoic acid. Therefore, it opens the possibility for the humans of reduced need for taking food due to the absorption of α-lipoic acid, leading thus to reduction in weight.

Accordingly, the aim of the invention is to propose a composition that has no side-effects, of the kind mentioned at the outset, which can contribute to the reduction in the weight or can improve such a contribution.

An ubiquinone concentrate is known from the patent document WO 03/007907, which comprises an emulsifier, ubiquinone Q_{10}, and a light vegetable oil (safflower oil). This concentrate has the property of facilitating the availability of Q_{10}, which is required in the mitochondria for the breaking down of ~~the~~ fats.

In the German Patent Disclosure DE 101 08 614 A1, the demonstrative example d shows the method of production of a water soluble α-lipoic acid solubilizate containing α-lipoic acid and polysorbate.

To that end, the invention proposes a water-free concentrate, which contains the ubiquinone Q_{10}, which is a medium-chained triglyceride, or a triglyceride mixture of α-lipoic acid or its derivatives or one or more emulsifiers with HLB value between 9 and 19 permitted according to the food or drug laws. The invention is based on the concept of supporting the breaking down of the fats by supplying an adequate supply of Q_{10} on one hand, and limiting the breakdown of

the fat stored in the organism on the other hand, in that simultaneous administration of α-lipoic acid with food intake retards food consumption due to the influence exercised by the hypothalamus. The named ingredients of the concentrate according to the invention are permitted by the food laws and are free of side-effects. The concentrate with suitable proportions by weight of its ingredients is clear and viscous and enables processing of its contents to capsules without problems preferably at slightly higher temperature of about 60° C. Daily administration of such capsules can lead to reduction in the weight of the organism. In the meantime, scientific research carried out has shown that administration of concentrates according to the invention to test persons led to higher percent-wise loss, that is to higher percent-wise loss of visceral fat mass and to greater percent-wise difference in the perimeter of the waist compared to the placebo.

The emulsifiers usable according to the invention are subject to the respective national and international food or drug regulations. The solubilizers, which primarily come in question in that context, are the non-ionic polysorbates that are permitted everywhere, above all polysorbate 20 and/or polysorbate 80. For instance, other emulsifiers are also permitted in the United States of America and in Japan which can also be used in context of the invention.

Supplementary to the α-lipoic acid, dihydrolipoic acid or dihydrolipoamide can also be used successfully for making a concentrate according to the invention. Further, the compositions preferred according to the invention are mentioned in the dependent claims. It turns out that it is practical if the concentrate contains either only polysorbate 80 or if necessary a mixture of polysorbate 80 with polysorbate 20. Further, it is recommendable to use either a mild foodstuff oil such as safflower oil, or a composition, which essentially consists of caprylic acid and caprinic acid, and is available as a product under the trade name Miglyol 812.

The ratio by weight of the polysorbate to the sum of the weights of the ingredients in the concentrate according to the invention lies preferably between about 4:1 and 5.5:1. It is practical if the ratio by weight of Q_{10} to α-lipoic acid lies between 1:1 to about 1:4 with up to 20% deviation.

Special exemplary compositions of the concentrate according to the invention are given in the dependent claims.

The concentrate according to the invention is suitable as an adjuvant to non-alcoholic drinks like water, fruit juice, vegetable juice, whereby a concentration of the concentrate in the drink between about 1:0.1 up to about 1:5,000 is recommendable. The concentrate can also be added to milk products, honey, plant oils, whereby it makes sense if the ratio of the concentrate to the mentioned products lies between 1:0.1 and about 1:100.

For the production of the concentrate according to the invention, it is practical to proceed in such a manner that at first a solubilizate is obtained from Q_{10}, polysorbate 80 and a center-chained triglyceride, thereafter a solubilizate is obtained from α-lipoic acid and polysorbate 80 or polysorbate 20, and subsequently the Q_{10} solubilizate is mixed with α-lipoic acid and stirred to give a homogeneous, clear mass, soluble in water. It is recommendable to mix the Q_{10} solubilizate with α-lipoic acid solubilizate in a ratio by weight of about 2:1, for example, 1.8:1 at a temperature of about 60° C. The optimal solubilization temperature for α-lipoic acid lies significantly higher than that of the heat sensitive Q_{10}, so that separate sediment-free solubilization at the corresponding temperatures suitable for the two active substances is recommendable.

Exemplary compositions according to the invention are stated in detail in the following.

One starts with a 5% water-free, water-soluble Q_{10} solubilizate as described in the Example 2 for the preparation in the document WO 03/0077907. After that, 790 parts by weight of polysorbate 80 is heated to about 85° C. After that 50 parts of weight of the

coenzyme Q_{10} are added and the mixture (840 parts by weight) is stirred, maintaining temperature of about 85° C, for some time (about 5 minutes) until it becomes homogeneous and transparent. Subsequently, 160 parts by weight of safflower oil is added to this mixture after this as well is warmed to about 85° C. After heating, it is also stirred, maintaining temperature of about 85° C, for some time (about 2 minutes), until the whole mixture (1,000 parts by weight) also becomes homogeneous and transparent. After cooling to room or body temperature, clearness and water solubility are preserved. One gram of this solubilizate contains 50 mg Q_{10}.

Safflower oil is mentioned as the ingredient in that instance. safflower oil can also be substituted according to the invention by another medium-chained triglyceride mixture of same amount, which contains saturated vegetable fatty acids of medium chain-length, consisting essentially of caprylic acid and caprinic acid, and is offered commercially by the Firm Sasol GmbH under the name Miglyol 812 N, for example.

Thereafter, a 10% water-free, water soluble α-lipoic acid solubilizate is prepared by heating at first 900 parts by weight of polysorbate 20 to 60° C. In the warm polysorbate 20, 100 parts by weight of α-lipoic acid are slowly trickled in (CAS No. 62-46-4; ALIPURE of the firm Degussa). Under continuous stirring, the mixture is heated at about 100° C until it becomes a transparent mixture. On cooling to room temperature, the mixture remains transparent and is fully water soluble in that form. 1 g of this solubilizate contains 100 mg α-lipoic acid. The use of polysorbate 20 facilitates solubilization; but in this case, same amount of polysorbate 80 is to be preferred due to sensory reasons.

To obtain a Q_{10}- α-Lipoic acid solubilizate, about 660 parts by weight of Q_{10} solubilizate with about 370 parts by weight of α-lipoic acid solubilizate are stirred at temperature of about 60° C to yield a homogenous mixture. This mixture contains 33 parts by weight of Q_{10} and 37 parts by weight of α-lipoic acid, both of which are present in the polysorbate micelles with particle diameter of about 10 nm. With this mixture, gelatin-containing or gelatin-free capsules with 470 mg filling weight are filled up. The content of this

capsule consists then of about 15.02 mg Q_{10}, about 16.68 mg α-lipoic acid, about 48.22 mg triglycerides and about 389.7 mg polysorbate 80.

Therefore, on consumption of three capsules of this type per day, the organism takes up about

- 45.15 mg Q_{10}
- 50.58 mg α-lipoic acid
- 144.66 mg triglyceride
- 1169.1 mg polysorbate 80.

These quantities remain well below the maximum daily doses permitted officially for the respective ingredients according to the food laws.

Further examples for the composition of the concentrate according to the invention are given in the following tables. In the tables, MCT refers to the aforementioned Miglyol 812 and polysorbate refers to polysorbate 80. Preparation of the individual exemplary concentrates is done according to the explanation given in the first example.

Example 2

	G/kg	w/w %
A) Q_{10}	50	5
B) α-lipoic acid	100	10
C) MCT	40	4
D) Polysorbate	810	81
Total:	1,000	100

Example 3

	g/kg	w/w %
A) Q_{10}	40	4
B) α-lipoic acid	80	8
C) MCT	60	6
D) Polysorbate	820	82
Total:	1,000	100

Example 4

	g/kg	w/w%
A) Q_{10}	50	5
B) α-lipoic acid	90	9
C) MCT	50	5
D) Polysorbate	810	81
Total:	1,000	100

Example 5

	g/kg	w/w%
A) Q_{10}	20	2
B) α-lipoic acid	80	8
C) MCT	60	6
D) Polysorbate	840	84
Total:	1,000	100

Due to its solubility in water, particularly in mildly warm water (about 35° C), the appropriate dose of the Q_{10}-α-lipoic acid concentrate according to the invention can be added to alcohol-free drinks, without impairing the clearness of the drink. Further, the concentrate according to the invention can be added to salves or other cosmetic substances, because the micellar structure of the concentrate facilitates penetration into the skin. Finally, the concentrate according to the invention can be used as a food supplement, or, in higher doses, as a dietary foodstuff.

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Accordingly, the aim of the invention is to propose a composition that has no side-effects, of the kind mentioned at the outset, which can contribute to the reduction in the weight or can improve such a contribution.

An ~~ubichinon~~ ubiquinone concentrate is known from the patent document WO 03/007907, which comprises an ~~emulgator~~emulsifier, ~~ubichinon~~ubiquinone Q_{10}, and a light vegetable oil (safflower oil). This concentrate has the property of facilitating the availability of Q_{10}, which is required in the mitochondria for the breaking down of ~~the~~ fats.

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To that end, the invention proposes a water-free concentrate, which contains the ~~ubichinon~~ubiquinone Q_{10}, which is a medium-chained triglyceride, or a triglyceride mixture of α-lipoic acid or its derivatives or one or more ~~emulgator~~emulsifiers with HLB value between 9 and 19 permitted according to the food or drug laws. The invention is based on the concept of supporting the breaking down of the fats by supplying an adequate supply of Q_{10} on one hand, and limiting the breakdown of

the fat stored in the organism on the other hand, in that simultaneous administration of α-lipoic acid with food intake retards food consumption due to the influence exercised by the hypothalamus. The named ingredients of the concentrate according to the invention are permitted by the food laws and are free of side-effects. The concentrate with suitable proportions by weight of its ingredients is clear and viscous and enables processing of its contents to capsules without problems preferably at slightly higher temperature of about 60° C. Daily administration of such capsules can lead to reduction in the weight of the organism. In the meantime, scientific research carried out has shown that administration of concentrates according to the invention to test persons led to higher percent-wise loss, that is to higher percent-wise loss of visceral fat mass and to greater percent-wise difference in the perimeter of the waist compared to the placebo.

The ~~emulgator~~emulsifiers usable according to the invention are subject to the respective national and international food or drug regulations. The solubilizers, which primarily come in question in that context, are the non-ionic polysorbates that are permitted everywhere, above all polysorbate 20 and/or polysorbate 80. For instance, other ~~emulgator~~emulsifiers are also permitted in the United States of America and in Japan which can also be used in context of the invention.

Supplementary to the α-lipoic acid, dihydrolipoic acid or dihydrolipoamide can also be used successfully for making a concentrate according to the invention. Further, the compositions preferred according to the invention are mentioned in the dependent claims. It turns out that it is practical if the concentrate contains either only polysorbate 80 or if necessary a mixture of polysorbate 80 with polysorbate 20. Further, it is recommendable to use either a mild foodstuff oil such as safflower oil, or a composition, which essentially consists of caprylic acid and caprinic acid, and is available as a product under the trade name Miglyol 812.

The ratio by weight of the polysorbate to the sum of the weights of the ingredients in the concentrate according to the invention lies preferably between about 4:1 and 5.5:1. It is practical if the ratio by weight of Q_{10} to α-lipoic acid lies between 1:1 to about 1:4 with up to 20% deviation.

Special exemplary compositions of the concentrate according to the invention are given in the dependent claims.

The concentrate according to the invention is suitable as an adjuvant to non-alcoholic drinks like water, fruit juice, vegetable juice, whereby a concentration of the concentrate in the drink between about 1:0.1 up to about 1:5,000 is recommendable. The concentrate can also be added to milk products, honey, plant oils, whereby it makes sense if the ratio of the concentrate to the mentioned products lies between 1:0.1 and about 1:100.

For the production of the concentrate according to the invention, it is practical to proceed in such a manner that at first a solubilizate is obtained from Q_{10}, polysorbate 80 and a center-chained triglyceride, thereafter a solubilizate is obtained from α-lipoic acid and polysorbate 80 or polysorbate 20, and subsequently the Q_{10} solubilizate is mixed with α-lipoic acid and stirred to give a homogeneous, clear mass, soluble in water. It is recommendable to mix the Q_{10} solubilizate with α-lipoic acid solubilizate in a ratio by weight of about 2:1, for example, 1.8:1 at a temperature of about 60° C. The optimal solubilization temperature for α-lipoic acid lies significantly higher than that of the heat sensitive Q_{10}, so that separate sediment-free solubilization at the corresponding temperatures suitable for the two active substances is recommendable.

Exemplary compositions according to the invention are stated in detail in the following.

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coenzyme Q_{10} are added and the mixture (840 parts by weight) is stirred, maintaining temperature of about 85° C, for some time (about 5 minutes) until it becomes homogeneous and transparent. Subsequently, 160 parts by weight of safflower oil is added to this mixture after this as well is warmed to about 85° C. After heating, it is also stirred, maintaining temperature of about 85° C, for some time (about 2 minutes), until the whole mixture (1,000 parts by weight) also becomes homogeneous and transparent. After cooling to room or body temperature, clearness and water solubility are preserved. One gram of this solubilizate contains 50 mg Q_{10}.

Safflower oil is mentioned as the ingredient in that instance. safflower oil can also be substituted according to the invention by another medium-chained triglyceride mixture of same amount, which contains saturated vegetable fatty acids of medium chain-length, consisting essentially of caprylic acid and caprinic acid, and is offered commercially by the Firm Sasol GmbH under the name Miglyol 812 N, for example.

Thereafter, a 10% water-free, water soluble α-lipoic acid solubilizate is prepared by heating at first 900 parts by weight of polysorbate 20 to 60° C. In the warm polysorbate 20, 100 parts by weight of α-lipoic acid are slowly trickled in (CAS No. 62-46-4; ALIPURE of the firm Degussa). Under continuous stirring, the mixture is heated at about 100° C until it becomes a transparent mixture. On cooling to room temperature, the mixture remains transparent and is fully water soluble in that form. 1 g of this solubilizate contains 100 mg α-lipoic acid. The use of polysorbate 20 facilitates solubilization; but in this case, same amount of polysorbate 80 is to be preferred due to sensory reasons.

To obtain a Q_{10}- α-Lipoic acid solubilizate, about 660 parts by weight of Q_{10} solubilizate with about 370 parts by weight of α-lipoic acid solubilizate are stirred at temperature of about 60° C to yield a homogenous mixture. This mixture contains 33 parts by weight of Q_{10} and 37 parts by weight of α-lipoic acid, both of which are present in the polysorbate micelles with particle diameter of about 10 nm. With this mixture, gelatin-containing or gelatin-free capsules with 470 mg filling weight are filled up. The content of this

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These quantities remain well below the maximum daily doses permitted officially for the respective ingredients according to the food laws.

Further examples for the composition of the concentrate according to the invention are given in the following tables. In the tables, MCT refers to the aforementioned Miglyol 812 and polysorbate refers to polysorbate 80. Preparation of the individual exemplary concentrates is done according to the explanation given in the first example.

Example 2

	G/kg	w/w %
A) Q_{10}	50	5
B) α-lipoic acid	100	10
C) MCT	40	4
D) Polysorbate	810	81
Total:	1,000	100

Example 3

	g/kg	w/w %
A) Q_{10}	40	4
B) α-lipoic acid	80	8
C) MCT	60	6
D) Polysorbate	820	82
Total:	1,000	100

Example 4

	g/kg	w/w%
A) Q_{10}	50	5
B) α-lipoic acid	90	9
C) MCT	50	5
D) Polysorbate	810	81
Total:	1,000	100

Example 5

	g/kg	w/w%
A) Q_{10}	20	2
B) α-lipoic acid	80	8
C) MCT	60	6
D) Polysorbate	840	84
Total:	1,000	100

Due to its solubility in water, particularly in mildly warm water (about 35° C), the appropriate dose of the Q_{10}-α-lipoic acid concentrate according to the invention can be added to alcohol-free drinks, without impairing the clearness of the drink. Further, the concentrate according to the invention can be added to salves or other cosmetic substances, because the micellar structure of the concentrate facilitates penetration into the skin. Finally, the concentrate according to the invention can be used as a food supplement, or, in higher doses, as a dietary foodstuff.